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MILL CREEK MOTOR FREIGHT

*Achieving Cost Savings
Through Leading-Edge
Technology*

Mill Creek Motor Freight has undergone phenomenal growth since the company was established as a two-truck operation in Cambridge, Ontario, in 1980. One of the reasons is the company's determination to keep abreast of the latest technologies for the trucking industry. Mill Creek has used those technologies to expand its business, reduce its fuel and maintenance costs, and prosper in the competitive North American marketplace.



About the company

Mill Creek Motor Freight provides a freight service that moves high-value goods (e.g., computers, electronics and automotive parts) throughout Canada and the mainland United States and to all major points in Mexico. The company owns 245 air-ride tractors and about 550 high-cube, air-ride trailers, each equipped for specialized freight movements. It operates both 48-foot and 53-foot tandem axle units, as well as tri-axles and open-top trailers. Mill Creek employs 375 people at its headquarters in Cambridge and at strategically located terminals in Holland, Michigan; Greensboro, North Carolina; and Laredo, Texas.

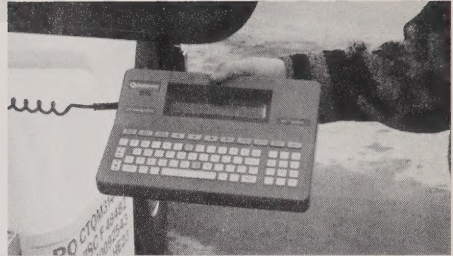
service

According to Bob Simpson, Mill Creek Vice-President of Marketing, the company continuously monitors vehicle specifications and performance and implements changes to improve safety, efficiency and emissions. For example, over the past two years, the company has reduced its average vehicle weight by more than 450 kilograms (1 000 pounds) using ultra-light aluminum components such as cross members, frame gussets, fuel tank hangers and shock absorber brackets. In 1995, Mill Creek began switching to 53-foot trailers to increase payload and productivity. The new trailers' lightweight but durable aluminum frame construction and low-profile tires combine to increase cubic capacity, allowing for trailers 110 inches in height instead of the standard 108 inches. Other recent changes to improve fleet fuel efficiency include converting to third generation Detroit Diesel engines, using cab fairings to improve aerodynamics, and spec'ing 13-speed, double-overdrive transmissions, which optimize engine speed to road speed.

Computerizing fleet operations

In March 1995, Mill Creek took the next step in automating its fleet operations by installing a computerized management information system that handles all operational, accounting, communication, maintenance and administrative requirements for the company. This involved purchasing and customizing five standard software programs developed for trucking companies and providing them with a satellite interface, at a total cost of \$150,000.

The operations module works in real-time mode, so dispatchers can view up-to-the-minute lists of available loads, tractors,



Satellite Technology

"Before we installed the satellite system, our drivers called in to dispatch every four hours," explains Mill Creek Vice-President of Marketing, Bob Simpson. "With over 100 trucks out at a time, our dispatch people spent most of their time talking to our drivers. We wanted dispatch to talk to clients, not drivers."

The old dispatch operation presented another problem. "When a customer called in a pickup order, dispatch had to wait for all drivers in the vicinity to call in before we could accept the order and reroute the appropriate truck. This literally wasted hundreds of hours."

trailers and drivers. On receipt of a pickup order, the system instantly displays the following information:

- which trucks are within a reasonable distance of the customer;
- which drivers have the legal hours available to handle the required driving time;
- which trailers have the capacity to handle the load;
- which trucks can ensure delivery will be completed within a reasonable and legal time frame, based on travel times calculated by the system;
- the direct cost-per-mile for each truck; and
- the amount of revenue that will be generated on that load.

"Within seconds of the customer's call, we can decide on the most cost-effective way to meet the order and determine the profit before we accept the load," says Mr. Simpson.

Mill Creek purchased the satellite system at a cost of approximately \$5,500 per unit, which is included in the capital cost of the truck. System maintenance and air time amount to about \$50 per unit per month. After

three years of operation, Mill Creek is still using all of the original units. Driver training costs are minimal, consisting of a two-hour course in a boardroom followed by a practice session in one of the trucks.

By interfacing with the satellite system, the operations module enables Mill Creek's dispatchers to visually determine the location of each vehicle to within 100 metres (110 yards). This allows the dispatch operation to respond almost instantaneously to customer requests for status reports or to quickly reroute drivers to pick up additional freight.

"Suppose a truck picks up a load in Atlanta," explains Mr. Simpson. "The customer calls a few minutes later saying, 'Sorry, we left out a couple of skids, can you pick them up?' Before the system was installed, dispatch would have to wait until the driver called in four hours later, by which time the truck was probably more than 200 miles away. Now, dispatch can call the truck almost instantly to go back and pick up the load. This does wonders for our customer service and is a tremendous marketing tool."

The system also highlights which loads may be delivered late, based on the estimated time of arrival. This allows a dispatcher to contact the driver via satellite to discuss how to prevent a late delivery. If it cannot be avoided, dispatch contacts the customer to inform them of the problem and the new estimated time of arrival. The company is now introducing electronic data interchange capabilities that will permit clients to place orders electronically and track their own shipments through the satellite link.

Tracking fleet maintenance requirements and costs

The maintenance module of the management information system tracks and reports on Mill Creek's vehicle maintenance program. Fully integrated to the operations module, it establishes a critical link between dispatch and the company's full-service shop in Cambridge (which handles preventive maintenance for all of the company's equipment), allowing instant notification of unscheduled repairs and vehicle service dates. On-board monitoring devices can diagnose up to 84 possible engine problems and communicate them via satellite to dispatch, which allows for quick identification of problems and, where possible, on-the-road adjustments.

As well, the maintenance module automatically schedules preventive maintenance for all equipment according to the manufacturers' specifications. It tracks maintenance costs by tractor, trailer and replacement part, thus supporting proper pricing of equipment. The module also tracks warranties for replacement parts, enabling quick and accurate warranty recovery from manufacturers.

Monitoring fuel efficiency

All Mill Creek tractors are speed-governed to reduce speeding violations and improve fuel efficiency. Drivers are provided with detailed route directions, and dispatchers call both shippers and receivers to confirm loading and unloading times. Before accepting a load, dispatch ensures that the required delivery times can be met driving within the legal speed limit. All transit times are reviewed to ensure compliance with the speed limit, and violations are reviewed with drivers.

The on-board monitoring devices allow both the driver and the terminal staff to view real-time data such as speed, idle time, total trip time, and shifting and braking. A bonus program gives drivers a monetary incentive to practice fuel-efficient driving techniques.

The Mill Creek fleet consumes an average of 5.7 million litres of fuel per year. In 1995, fleet trucks averaged 36 litres per 100 kilometres (7.7 miles per gallon) in winter and 35 litres per 100 kilometres (8.0 miles per gallon) in summer. The company recorded a 3.6 per cent improvement in fuel economy from 1994 to 1995.

The bottom line — a 25 per cent improvement in efficiency

Mill Creek estimates that the two-way satellite communication system has increased overall company productivity by at least 25 per cent. The system makes dispatch much more efficient by allowing pre-planning of loads, load-capacity improvements and better cost control. Furthermore, it improves drivers' productivity by eliminating the need to look for pay telephones

and provides major savings in pager and long-distance telephone costs. The system also permits closer monitoring of individual drivers, which helps maintain fuel efficiency.

Mr. Simpson provides this assessment: "The system paid for itself in 24 to 27 months. Our efficiency has improved tremendously, and we can now provide our clients with the highest level of service in the industry. Business actually increased, and profits were maintained during the recession."



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ISBN: 0-662-24896-1

Cat. no.: M91-24/3-1996E





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